

Title (en)  
POSITIVE ELECTRODE CURRENT COLLECTOR, POSITIVE ELECTRODE PIECE, ELECTROCHEMICAL DEVICE, AND DEVICE

Title (de)  
POSITIVELEKTRODENSTROMKOLLEKTOR, POSITIVELEKTRODENTEIL, ELEKTROCHEMISCHE VORRICHTUNG UND VORRICHTUNG

Title (fr)  
COLLECTEUR DE COURANT D'ÉLECTRODE POSITIVE, PIÈCE D'ÉLECTRODE POSITIVE, DISPOSITIF ÉLECTROCHIMIQUE ET DISPOSITIF

Publication  
**EP 3799170 C0 20240221 (EN)**

Application  
**EP 19933211 A 20191227**

Priority

- CN 201910586679 A 20190701
- CN 2019129349 W 20191227

Abstract (en)  
[origin: EP3799170A1] The present application discloses a positive electrode current collector, a positive electrode piece, an electrochemical device and an apparatus, where the positive electrode current collector includes a support layer and a conductive layer provided on the support layer, where a material of the conductive layer is aluminum or aluminum alloy, and a thickness  $D_{<sub>1</sub>}$  of the conductive layer is  $300\text{ nm} \leq D_{<sub>1</sub>} \leq 2\text{ }\mu\text{m}$ ; an elongation at break B of the support layer is  $10000\% \geq B \geq 12\%$ , and a volume resistivity of the support layer is greater than or equal to  $1.0 \times 10^{-5}\text{ }\Omega\cdot\text{m}$ ; when a tensile strain of the positive electrode current collector is 2%, a square resistance growth rate  $T_{<sub>1</sub>}$  of the conductive layer is  $T_{<sub>1</sub>} \leq 10\%$ . The positive electrode current collector provided in the present application can simultaneously take into account both high safety performance and electrical performance, thereby enabling the positive electrode piece, the electrochemical device and the apparatus using it to simultaneously take into account high safety performance and electrochemical performance.

IPC 8 full level  
**H01M 4/66** (2006.01); **H01M 4/36** (2006.01)

CPC (source: CN EP US)  
**H01M 4/366** (2013.01 - EP); **H01M 4/661** (2013.01 - CN EP US); **H01M 4/662** (2013.01 - CN US); **H01M 4/664** (2013.01 - US); **H01M 4/667** (2013.01 - CN EP US); **H01M 4/668** (2013.01 - EP US); **H01M 10/0525** (2013.01 - CN); **H01M 10/0525** (2013.01 - EP); **H01M 2004/021** (2013.01 - US); **H01M 2004/028** (2013.01 - US); **Y02E 60/10** (2013.01 - EP)

Designated contracting state (EPC)  
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Participating member state (EPC – UP)  
AT BE BG DE DK EE FI FR IT LT LU LV MT NL PT SE SI

DOCDB simple family (publication)  
**EP 3799170 A1 20210331**; **EP 3799170 A4 20211103**; **EP 3799170 B1 20240221**; **EP 3799170 C0 20240221**; CN 112186196 A 20210105; CN 112186196 B 20231027; US 11621425 B2 20230404; US 2021111412 A1 20210415; WO 2021000545 A1 20210107

DOCDB simple family (application)  
**EP 19933211 A 20191227**; CN 201910586679 A 20190701; CN 2019129349 W 20191227; US 202017132173 A 20201223